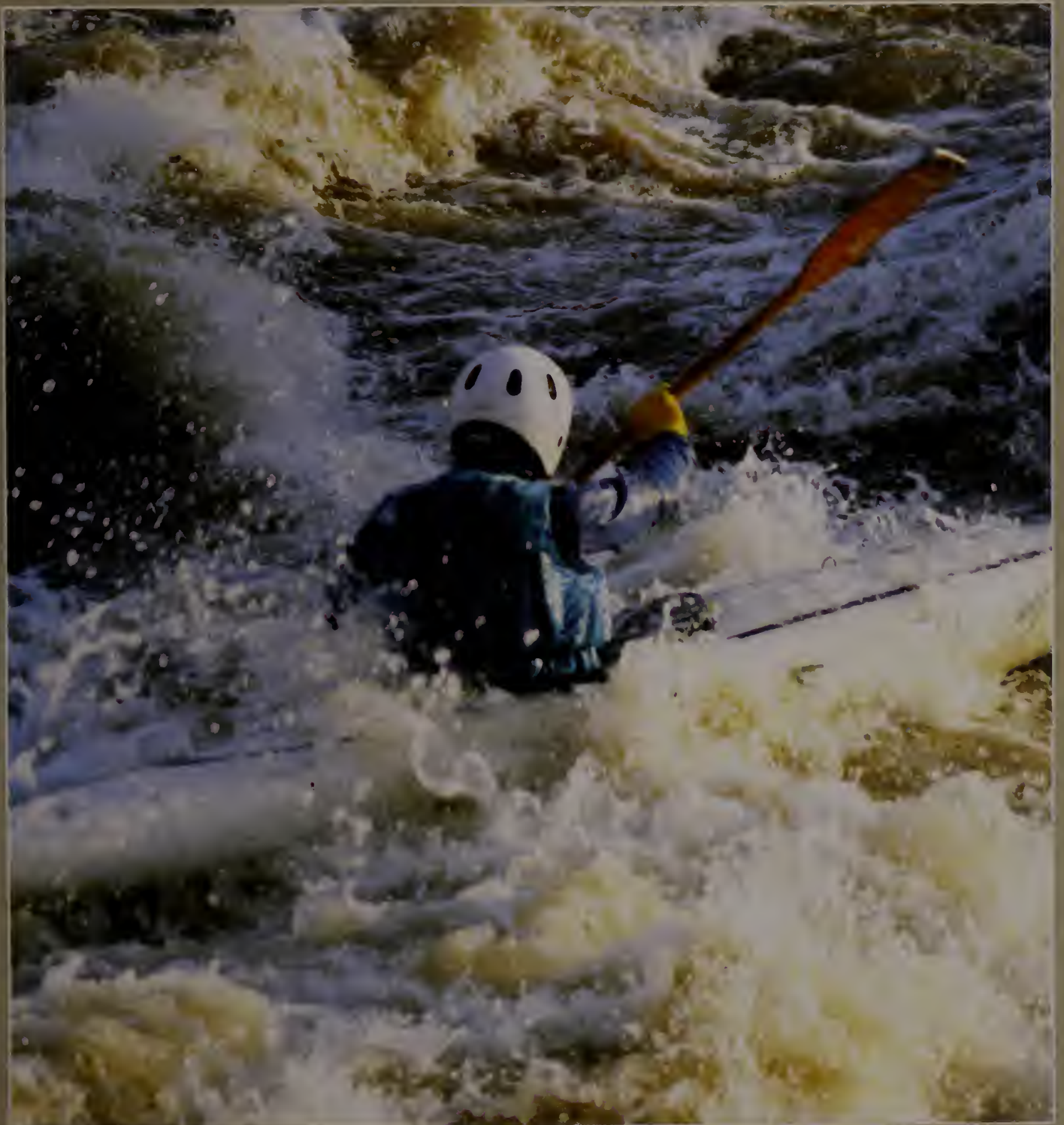


VIRGINIA WILDLIFE

JUNE 1983

ONE DOLLAR



VIRGINIA WILDLIFE

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Volume 44, Number 6
June 1983

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Cover

A kayaker meets the challenge of the turbulent James River near Richmond; photo by David Williams of Richmond. The river offers a variety of tests for both the expert and the novice; for more on these opportunities, turn to page 15.

Back cover: photograph by Lisa Cumming, also of Richmond. National Safe Boating Week is June 5-12.

Letters

A Good Idea

In reference to the "Kraft-y Renewal Notice" in your March 1983 *Virginia Wildlife*: I really like the kraft paper idea. It sure reminded us to renew our subscription. I'm in the printing business myself and the kraft idea is a good and inexpensive one. It certainly is not "demeaning" to us. *Virginia Wildlife* is such a fine magazine that it would take a "hell of a lot more" than kraft paper to demean it or the subscriber. My husband and I look forward to your magazine's arriving every month; keep up the good work!

Gwen Knuteson
Gloucester

Gee, thanks!—Managing Editor

Drew Downey
Washington, D.C.

One out of two ain't bad. You were right as far as the top photo is concerned. The camouflaged hunter is wearing shorts, which explains why you can see his legs. Had he been wearing long pants, he might have been more difficult to find. In the bottom photo, the third hunter is standing up to the left of the hunter in orange and is about a half inch from the edge of the photo. He is next to a tree. The fourth hunter, perhaps the most difficult to find, is sitting in the same position as the hunter in the top photo. He is just to the right of the orange hunter but farther back in the woods.

Although the careful hunter might have lost his turkey by scrutinizing his line of fire, at least he would not have accidentally shot another hunter. And as the story mentioned, hunters wearing orange vests in an experiment actually had better luck with the turkeys than did those in camouflage. You can see how easy it is to distinguish the orange vest in the field, even at a distance.

Thanks for your compliments.—
Editorial Assistant

Whistling Swans

We were very pleased that the bird of the month during March was the whistling swan. More than 100 of these great birds make their winter homes on Quantico Creek, a tributary of the Potomac River near Dumfries. They begin to return before Thanksgiving of each year and stay through part of March. They are a source of joy for those of us who make our home on the banks of Quantico Creek. Mr. Thrall is a member of the Prince William County Wetlands Board and shares with you the need for "continued protection of our coastal wetlands." I write the Dumfries column for the *Potomac News* and often write about the swans. Many people are surprised to find these beautiful birds in an area so close to metropolitan Washington, D.C. (30 miles). Again, thanks for your informative article about the whistling swans.

Eileen Thrall
Dumfries

You're welcome. But while you may find

"a source of joy" in the yearly return of the whistling swan to your area, apparently many farmers do not share your feelings. As was pointed out in the original article, pollution and siltation have destroyed a lot of the swan's natural foods. Therefore, it has turned to the young winter wheat crops of farmers, causing thousands of dollars in crop damage. In addition, some watermen complain that the swan digs up or disturbs young oyster beds. Thus, there certainly is a need for further preservation of our wetlands so that these swans can survive peacefully.—
Editorial Assistant

About the Authors

Robert E. Wollitz, supervising fisheries biologist in southwest Virginia, has been with the Game Commission since 1958. He holds bachelor's and master's degrees in fish and wildlife management from Montana State College. Jack Musick is with the Virginia Institute of Marine Science (VIMS) in Gloucester Point. Bob Gooch of Troy is a regular contributor to this and other magazines and newspapers. John Heerwald is an outdoor recreation planner with the Commission of Outdoor Recreation (COR) and, predictably, an avid canoeist. He has written several articles on Virginia rivers for *Virginia Wildlife*; eventually, these articles will be available from COR and the Game Commission as a series of reprints, including maps of the rivers highlighted. Francis X. Sculley of Port Allegheny, Pennsylvania published an article on the shrew in the October 1981 issue of *Virginia Wildlife*. Sgt. Lannie Chitwood of the law enforcement division is area leader for the counties of Southampton, Isle of Wight and Sussex. Carolyn Evans worked on the magazine staff for several months under the University of Richmond's Quill Program, a competitive liberal arts internship scholarship. Bruce Potter joins our staff temporarily as editorial assistant under an internship program sponsored by Washington and Lee University, where he is a rising junior and journalism major.

to such defensive lengths. Some folks don't recognize a good thing when they see it.



Touring

Virginia's Fee Fishing Areas

Clinch Mountain and Crooked Creek in Southwest Virginia provide economical recreation opportunities for the occasional trout fisherman.

by Robert E. Wollitz

Virginia's fee fishing program was born in 1962 when the General Assembly authorized the Commission of Game and Inland Fisheries to establish a maximum of three such areas. On May 2, 1964, the first stream, Big Tumbling Creek (Clinch Mountain Fee Fishing Area), was opened to fee fishing.

Since then, fee fishing areas have provided the angler with economical recreation on a short-term basis. Fishermen who come to Virginia from other states in search of trout would otherwise be obliged to purchase a non-resident fishing license and non-resident trout license (a total of \$25). That's a reasonable fee for someone who plans to spend a good bit of time fishing in Virginia's trout streams, but for the occasional visitor, the fee fishing alternative is an affordable one. It's also a good opportunity for the Virginian who fishes on a short-term or infrequent basis.

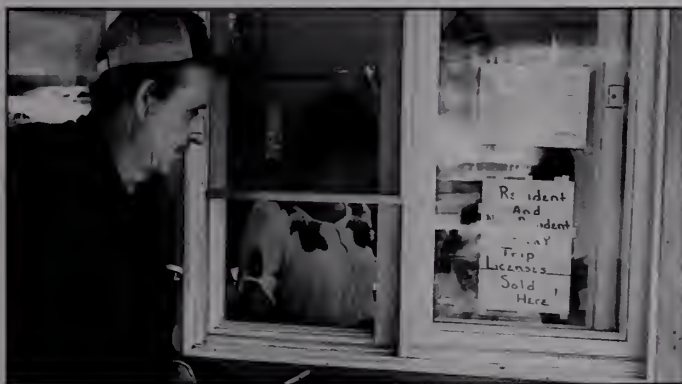
Big Tumbling Creek is located in the southwest portion of the state, approximately seven miles west of Saltville on the Clinch Mountain Wildlife Management Area. You can reach Big Tumbling Creek by following State Route 107 through Saltville to Routes 613, then 747 to the Clinch Mountain Wildlife Management Area. This stream is fairly large, varying in width from 20 to 40 feet. The stream bed consists mostly of bedrock and large boulders and is quite difficult to wade. However, the stream bank is relatively open and bank fishing is fairly easy except for the gorge area and Laurel Bed Creek. The gorge area consists of about a mile of cascades and a few moderately high waterfalls. Laurel Bed Creek flows through woodland and the stream bank is brush and tree-covered, making it difficult to fish. About six and a half miles of Big Tumbling Creek are available for fishing.

In 1968 the Clinch Mountain fee fishery was expanded to include the 330-acre Laurel Bed Lake. Besides providing additional fishing, Laurel Bed Lake also furnishes water to augment the flow of Tumbling Creek during periods of low summer streamflows. Fishing the lake can best be done from a boat, although some anglers bank fish near the dam. Most of the lakeshore consists of marsh on the northwest side, and the southeast side is steep and wooded and does not readily lend itself to fishing from shore.

Trout are stocked daily except Sunday in Big Tumbling Creek and its larger

of their growth in the lake and are considered semi-wild.

The second fee fishing area to be opened was Douthat Lake located north of Clifton Forge in Douthat State Park. This 60-acre lake and a small portion of its inlet stream (Wilson Creek) were opened to fee fishing in 1967. This lake, in addition to stocked trout, contains a warmwater population of bass and bluegill in the warm, upper water layers. Most trout fishing is done from boats, since the trout occupy the deeper colder areas of the lake and are not as accessible to anglers fishing from shore. Trout are



Fee fishing areas provide fun for anglers of all ages, like these two on Crooked Creek (facing page). For many who fish only occasionally, it's an economical alternative to a trout license (left).

Spike Knuth

tributaries (Laurel Bed and Brier Cove Creeks). Laurel Bed Lake, however, is scheduled to receive only one stocking of brook trout per year, although surplus brook trout from the hatchery may be introduced on occasion.

The management of Laurel Bed Lake differs from that of Big Tumbling Creek. The lake is being managed as a semi-wild fishery wherein only fingerling brook trout and occasionally a few browns, are introduced. These trout range in size from four to seven inches when stocked in the fall and usually reach an acceptable size of eight to nine inches by late April or May. Thus, these trout achieve much

stocked twice each week, on Tuesdays and Fridays.

The Crooked Creek Fee Fishing Area, the third and last such area authorized by the General Assembly, is also located in southwest Virginia in Carroll County about four miles southeast of Galax. Crooked Creek is accessible by State Route 620 southeast from Woodlawn and U.S. Route 58 to the stream. This area encompasses approximately 0.4 miles of stream including Crooked Creek proper and the East Fork Crooked Creek. While this stream is similar in size to Big Tumbling Creek (20 to 40 feet wide) the

Visitors to Virginia may fish these streams without incurring the expense of an out of state license.



Spike Knuth

character of the stream is considerably different. Big Tumbling Creek may be classed as a fast flowing, boulder-strewn mountain stream; but Crooked Creek, except for a portion of the main fork, is a slower flowing, meadow-type stream, with a stream bed consisting primarily of large gravel and rubble up to about 12 inches with few boulders.

Fishing Crooked Creek is done mostly by wading. Much of the streambank is covered with alders and multiflora rose bushes, restricting the amount of streambank available for fishing. Much of this rosebush bank cover is now being removed to provide better bank fishing access. Removal of the brush along these streambanks is a very ticklish job, due to the high erodability of the soil. We have tried killing the rosebushes with brush killer in an experimental area which resulted in serious bank erosion. Therefore, we are now cutting the rosebushes at ground level and planting grass which we hope will, in time, replace the rosebushes. By cutting the rosebushes at ground level, the root system is left alive to keep the stream banks stable until we have a good grass sod to replace the rosebushes. In order to reduce any possibility of erosion in these areas of rosebush control, we are restricting this practice to those areas we feel are least erodable such as low, sloping banks along straight stretches of stream.

Crooked Creek proper is stocked daily Monday through Saturday with trout from the diversion dam downstream to the property boundary adjacent to State Route 713—a distance of two and a half miles. The East Fork is also stocked daily from its confluence with Crooked Creek proper upstream approximately one and a half miles. Thus, the total area stocked on a daily basis is about four miles.

The remaining 2.8 miles of stream

owned by the Commission is the upper extremity of Crooked Creek proper above the diversion dam. This section extends upstream to about one-quarter mile south of Route 683 and is managed as a native brook trout fishery. In most of this section of the creek, the stream flow is moderately swift and the stream bottom consists largely of bedrock and boulders. Fishing is accomplished by wading and, except for the upper portion, is accessible only by foot.

A concession stand is located either at or near the headquarter areas of both the Clinch Mountain and Crooked Creek Fee Areas. Daily fishing permits and five-day licenses may be obtained here; hot sandwiches and various other short order foods are also available. A variety of artificial and natural baits and some fishing equipment may also be purchased at these concession stands. Both concession stands offer restrooms and sheltered picnic tables for the convenience of anglers. Concession facilities at the Douthat Lake Fee Area are operated by a concessionaire under the supervision of Douthat State Park and include a restaurant, operated only during the park season, Memorial Day through Labor Day. Douthat daily fishing permits are sold at the boat rental facilities on the lake. Small items of fishing tackle, tobacco products and snacks (candy bars, etc.) may also be purchased here during the fee fishing season.

Camping facilities are available at two of the three areas. The Clinch Mountain area provides a 20-unit primitive campground, and camping facilities are available at Douthat State Park. No camping is permitted at the Crooked Creek Area, although a campground is located nearby on U.S. Route 58 between Woodlawn and Hillsville.

With few exceptions, fishing regulations are the same on all three areas. A daily fishing permit is required in addition to a valid Virginia fishing license to fish during the fee season which runs from noon the first Saturday in April through Labor Day. During this period, no trout license is required. After Labor Day, these areas revert to regular trout regulations and a trout license is required. The one exception to this concerns Laurel Bed Lake located on the Clinch Mountain Area which is closed to angling from November 1 until the first Saturday in April. The creel limit on these areas is five trout per day and the possession limit is ten, and fishermen are required to use separate stringers. Fishing hours are posted at each area.

This article would not be complete without a discussion of the financial aspects of this program. The concept of the fee fishing program is to provide good trout fishing throughout the season in the three fee areas and is to be financed solely from the sale of daily permits. Thus, theoretically, you pay for the fish you catch and they are replaced in the streams or lake for the next angler.

Since the fee program was initiated, I have heard anglers say that the Game Commission is "getting rich" from the fee fishing program. Nothing could be further from the truth. Initially, the program broke about even. However, due to the ever increasing costs of labor, trout food, equipment, gasoline, etc., the fee program has been operating at a loss during the past several years. The sale of daily fishing permits is paying for only about one-half of the operating costs. In an attempt to break even, we are increasing the cost of the daily permits to two dollars, effective July 1, 1983. □

Tagging

The Loggerhead Sea Turtle

by J.A. Musick

Scientists at VIMS are trying to prevent this animal, which has

You are anchored peacefully in Sand Shoal Inlet, half-asleep in the summer sun, soaking a chunk of peeler in the off-chance that a semi-suicidal grey trout might show some interest, when suddenly you are jolted awake by a sharp, wet, exhalent snort, next to the gunwale. You look over the side and there floating just at the surface is a large, primitive-looking, saucer-shaped beast unceremoniously crunching up an entire horseshoe crab in its horny jaws. The animal looks up and notices your movement with its shining, dark eye; snorts again and dives; rapidly swimming below with great, bird-like strokes from its long front flippers. You have met a loggerhead sea turtle (*Caretta caretta*), an animal whose leathery skin and massive shell make him appear to be the very picture of indestructibility.

Unfortunately, this is not so. Although sea turtles have managed to survive since the age of dinosaurs (more than 60 million years ago) in essentially unmodified form, today the loggerhead and other species are threatened with extinction because of one other animal, *Homo sapiens*. Man has destroyed sea turtle nesting beaches, robbed their nests, killed them for food, and captured and killed them in large numbers incidentally while trawling for shrimp. There are five species of sea turtles found off the east coast of the U.S. The loggerhead and green turtle (*Chelonia mydas*) are classified as "threatened" on the U.S. Fish and Wildlife Service Endangered Species List. The Atlantic ridley (*Lepidochelys kempi*), the hawksbill (*Eretmochelys imbricata*), and leatherback (*Dermochelys coriacea*) are "endangered." All of these marine turtles are basically tropical or warm-temperate animals that cannot withstand winter temperatures lower than about 10°C (50°F). Consequently their visits to Virginia are con-

survived since pre-historic times, from becoming extinct.



photos by Richard Byles

fined to the warmer months (generally May to October).

Although we at the Virginia Institute of Marine Science had been collecting sporadic records of dead, stranded sea turtles for years, we did not begin to study them in detail until 1979. That spring I was fortunate to have a young, enthusiastic graduate student, Molly Lutcavage, come to me with an interest in sea turtle biology. We decided to try to document how many dead sea turtles washed up and stranded on Virginia beaches

and to record the size and species and other biological information on each specimen. We also wanted to know what was killing our turtles. With grant support from the National Marine Fisheries Service we established a network of cooperating laymen (watermen, local police, life guards, sanitary workers, military personnel, etc.) who recorded data from turtles on stranding forms which we designed. From May 1979 through December 1981 we documented more than 1,300 sea turtles, of which around 640 were dead. The most abundant species was the loggerhead (82 percent); the ridley was second (4 percent), and the leatherback was third (about one percent). The species of about 13 percent of the stranded turtles were not identified on our forms, but most of these were probably loggerheads. All three species were represented mostly by sub-adult individuals. The cause of death in most stranded turtles was almost impossible to determine because the carcasses were too decomposed to allow use of standard forensic techniques such as histopathology.

Many of the turtles appeared to be emaciated and were covered with barnacles. These animals probably suffered from disease and/or parasites before death. A small percentage of turtles died from wounds inflicted by boat propellers, gun shots and shark predation. In 1980, 30 percent of mortalities were drownings attributable to turtle entanglement in

the leader sections of pound nets. Turtles trapped in the head or heart of the net were safe because pounds are open to the surface so that trapped turtles can come up and breathe until they are released when the watermen empty their nets of fish.

The pound-net fishermen have been extremely cooperative in our study. With their help we have found that nets with large mesh in the leader are more likely to entangle turtles than those with smaller mesh. However, not all large mesh nets entangle turtles and not all turtles are vulnerable to entanglement. Other factors related to local turtle movements, strength and direction of currents, and the health and physical condition of individual turtles may decide whether a certain net can be avoided by a given turtle at any point in time. In each year of the study, the vast majority of mortalities was recorded near the first part of June, just after the turtles suddenly entered the lower Chesapeake Bay in large numbers in response to rising water temperatures.

We believe that many of these migrants are sick and in poor condition from feeding little while overwintering, and from their long spring trek up the coast. Many of these weak turtles may be unable to avoid nets when swept into them by strong tidal currents. This spring, with the help of a new graduate student, Sarah Bellmund, we hope to take a close look at the physiological condition of turtles as they come into the Bay.

As our study progressed it became obvious that large numbers of turtles spend the summer in Chesapeake Bay. We wanted to know whether our turtles came from nests on our own extensive barrier beach system, or from elsewhere. Luckily, Richard Byles joined our program and began a series of aircraft overflights weekly during the nesting season to census all Virginia beaches for turtle "crawls." Richard had done similar research in Florida and had also worked at the famed Rancho Nuevo beach in Mexico, the only known nesting area in the world for the Atlantic ridley. Our nesting study was supported by a grant from the city of Danville through the U.S. Environmental Protection Agency. Unfortunately because of the ignorance of certain officials and members of the press, the study reached national notoriety when headlines appeared stating, "City pays for study of sex-life of sea turtles." Of course this was analogous to confusing a maternity ward with a house of ill-repute. Undaunted, we continued our work and found that even though there is extensive, protected nesting habitat available to loggerhead turtles, only a few turtles nest in Virginia each year. The most likely reason for this is that there is no nearby nursery habitat available for the baby turtles after hatching. In areas off South Carolina, Georgia and Florida where there are large nesting colonies of loggerheads, the young apparently hide in mats of floating *Sargassum* weed at the edge of the Gulf Stream. Baby sea turtles hatched in Virginia would have to swim too far to find such habitat, and probably cold weather would overtake them if they were not eaten by predators during their long swim. These findings had an important impact on federal sea turtle management in Virginia. For years the Fish and Wildlife Service had been transferring turtle eggs from the southern nesting beaches to Chincoteague and Back Bay Wildlife refuges and releasing the hatchlings there with the hope of establishing loggerhead nesting colonies in Virginia. Our results indicated that these

young turtles would probably die and never return to nest. In addition, work done by scientists elsewhere suggested that the temperature of the turtle eggs during development determined whether the turtles would be male or female. The Fish and Wildlife Service had not been monitoring or controlling the temperature of their transplanted eggs and consequently may have been releasing all males or all females. With these facts before them, the Fish and Wildlife Service agreed to discontinue its loggerhead egg transplant program, thus probably saving the lives of thousands of young turtles and saving the taxpayers much money.

If our turtles are not hatched in Virginia, where are they from? Where do they go when they depart for the winter? We are attempting to answer these and other questions with our sea turtle tagging program. For the past several years, cooperating pound-net fishermen have been applying special monel steel tags to the front flippers of turtles caught in their nests. After tagging, these turtles are released. Many have been recaptured in other nets, some in subsequent summers (showing some turtles return to the Bay). Others have shown up dead, as strandings. We have no tag returns from outside Virginia, other than two from North Carolina, but we do have records of two loggerheads and one ridley tagged and released in Florida and recaptured in Virginia during the summer.

In addition to the standard monel tags (which look like cattle ear tags), Richard Byles has introduced high technology to the tagging program by attaching small radio and ultrasonic transmitters to several turtles. Such studies are crucial to understanding the behavior of the turtles while in the Bay in the summer. We have tracked turtles from small boats, day and night, sometimes for several days at a time, and recorded daily locations on individual turtles for up to 54 days. We have found that most loggerheads live along channel edges, where they may cruise back and forth with the tide for several weeks, surfacing to breathe, grazing on horseshoe crabs, and loafing in general. Healthy turtles seem to be able to graze right next to pound-net leaders and avoid entanglement.

When the first severe northerly storm strikes the Bay in October, the turtles swim out to the ocean and head south along the coast. We have tracked them as far as Cape Hatteras. From there they may hang out at the edge of the warm Gulf Stream, or even head south to Florida for the winter. Only more research can reveal the answers.

Remember this summer as you enjoy Virginia's pleasant bays and warm coastal waters, if you are so fortunate to see a large mahogany and yellow loggerhead, basking at the surface, don't be too surprised if you hear a faint, electronic beep-beep-beep. That's just the sound of your generous Virginia tax rebate contribution, a sound that may someday save these powerful but peaceful creatures from the fate of the dinosaurs. Extinction is forever. □

Editor's note: This is the story of another of the projects receiving funds from the Non-Game and Endangered Species Program administered by the Commission of Game and Inland Fisheries. This program is supported through the voluntary contributions of concerned citizens who designate that their state income tax refunds (or portions of them) be donated to the program, or make direct donations. To find out how you can help, or for more information, write to: Non-Game, Box 11104, Richmond, Virginia 23230-1104.







At First Light

Should the
hunter be up at
the crack of dawn?
That depends on
his quarry.

by Bob Gooch

“We should be there at first
light.”
First light! When is
that?

Opinions vary, but it comes early, awful early—sometime during those gray minutes between the last flicker of the stars and the painfully slow appearance of the sun. For most mortals it is a time for sweet slumber, but not for the waterfowl hunter, the spring turkey hunter, or the squirrel hunter. Legally, it is most significant a half hour before sunrise, legal hunting time in the Old Dominion, but the dedicated hunter is likely to be on location before first light. These are magic moments to await legal hunting time.



The outdoor world begins to stir at first light. Somewhere in the distance the raucous caw of a crow breaks the stillness, a squirrel barks and the bushy-tail hunter reaches for his little .22 rifle, an old tom gobbles and chills race along the spine of the turkey hunter, the whistle of wings overhead tells the duck hunter he has been caught napping. He swears softly and mutters something to himself.

Meeting first light is never easy. I've often crawled out of bed a few minutes after midnight for the long drive that will put me in a Back Bay duck blind before legal shooting time. "Why do you bother to go to bed?" my wife always asks. Or "just be quiet about it," she admonishes when I warn her I will be getting up at 4 a.m. to challenge an old gobbler on a nearby hardwood ridge. But half asleep and stumbling in the dark, I find it difficult to slip quietly out of the house.

First light comes at a respectable hour during the short days of December. If you will hunt close by it is possible to get a reasonable night's sleep and still meet it. But not during the spring gobbler season. The turkey hunter loses sleep he will never regain as the days begin to lengthen in April and May. I usually moan when I check the local newspaper and notice how early the sun will rise on the first day of the spring season. My wife just shakes her head.

First light is not of equal importance to all hunters. Maybe that's why dove hunting is so popular. It doesn't begin until noon. It is of little consequence to the quail or rabbit hunter. Coon hunters lose hours of sleep, of course, but they are usually snoring loudly at first light. Deer hunters take more venison at other times of the day, and while crows are noisy at dawn, they will respond to a call just as quickly later in the day.

But turkey hunters want to be there when the toms fly down from their roosts, squirrel hunters when the frisky little animals arrive in a hickory grove, and the duck hunters when wings whistle at dawn.

Of all the hunters who roam Virginia's fields, marshes, and woods, first light is probably of most importance to the spring gobbler hunter. And for him it comes painfully early. He should be there when the old gobbler rattles the woods in response to the owl hooting his

farewell to the night. If he is lucky he will be in a blind when the old bird flies down from his roost in search of his lady of the morning—and love at first light. The sun may be well above the horizon before the hunter gets his shot, but the hunt, the sweet talk with the call, the drama, begins long before.

First light is of less importance to the fall turkey hunter who often uses dogs to flush the birds, and then builds a blind on the spot to call them back. Some hunters, however, like to flush the birds near dusk and then return at dawn to call them.

"The dedicated hunter is likely to be on location before first light. These are magic moments to await legal hunting time."

Squirrel hunters are famous for being in the hardwoods at first light, and it comes early during the September and October early season. This is "cutting time" and being on a good stand near a nut-laden hickory at first light is one of Virginia's richest hunting traditions. The bushytail is one of the first woodland critters to stir as he scampers for his favorite nut tree. There the hunter waits.

Actually squirrel hunting can be just as productive in late afternoon, and there is usually some activity throughout the long autumn days, but dedicated hunters prefer the dawn.

The whistle of wings overhead is a welcome sound to the duck hunter awaiting legal hunting time in his marsh blind, but the light can be poor for shooting. Still, I like to pick up a duck or two during those early minutes. It gets my day off to a good start. The early shooting can be as brief as first light itself. The



birds settle down to feed, and I get my first sip of coffee from a steaming thermos jug. Soon they will move again, and there will be more shooting, but it is rarely as spectacular as that first flurry. Most waterfowlers are willing to endure lost sleep and long hours behind the wheel for that shooting at first light.

Deer hunters are accustomed to early rising; but since their season comes during the shortest days of the year, meeting first light is not a painful experience. But first light is not as important to deer hunting success, particularly in the east where hounds are used to drive the game by hunters on stands.



"Of all the hunters who roam Virginia's fields, marshes and woods, first light is probably of most importance to the spring gobbler hunter."

Deer feed at night much of the time, and the dawn hunter has to be on a stand without disturbing the feeding animals. He must also select a stand that will intercept them as they leave the field for a bedding area. Neither is easy. Actually, dusk can be more productive. The hunter can locate a well-used feeding area, and get on a stand late in the afternoon ahead of the deer.

Over the years I have bagged my share of deer at first light or soon thereafter, but many more at dusk or other times during those brief winter days.

"No use to go too early," my frequent bird hunting partner Junior Hasher usually tells me when I call to set up a hunt. Rarely is there reason for the quail hunter to meet first light. To do so would usually be fruitless. During those winter days when the frost hangs heavy in the

fields, the birds are sleeping just as soundly at first light as the average human. The sun is well above the horizon when the birds stir, fluff their feathers and wander into the hedges of the fields to feed and dust. Pointing dogs need those wandering routes to pick up their trails of scent.

An exception may occur during drought years and particularly early in the season when the weather is mild. Then there is little moisture to hold the bird's scent except at first light or soon thereafter when the sun has not evaporated the early-morning dew.

The same is generally true of rabbit hunting. My late father-in-law spent his retirement years tending a pack of eager little beagle hounds and chasing cottontails in some of Virginia's best rabbit country. Fortunately, rabbits were much more abundant in the Old Dominion than they are now, and whenever I could find time to join him I was almost assured of a good hunt.

"Let's wait until about nine," he invariably told me when I called to invite myself on one of his daily hunts.

He was right, of course. Rabbits, like quail, do not stir much when the weather is cold and the frost heavy as it often is during the peak of the cottontail season. They feed mostly at night and spend the days in their beds, or forms, beneath a pile of brush or deep in a briar patch. You have to rout them out, and it makes no difference whether you do so at first light or some other time.

Crows are noisy at first light. In fact, they are often the first critters to stir, the first to shatter the magic of the breaking day. I have bagged some crows at first light, but I seldom feel compelled to leave a warm bed to do so. The crow hunter can do just as well at other times of the day.

Running through Virginia's long list of game species, I would add bears and geese as candidates for first-light hunting, but would rule out grouse, woodcock, snipe and woodchucks. And good rail hunting is tied to the tides which may or may not occur early.

Doves at first light? Never! Those lazy Indian Summer days when the shooting begins at noon often flash before my mind as I crawl out of bed for some first-light hunting in the sub-freezing December weather, but I push them aside.

Then it is easy to build a case for dove hunting. □

Virginia's abundant free flowing rivers and streams have, in large part, escaped serious degradation brought about in the name of progress. The largest, longest and most historic of Virginia's irreplaceable river resources is the James. Though far from pristine, this "grande dame" of rivers has, over the centuries, borne the indiscretions of man gracefully, remaining a vital part of our "common wealth."

Canoeing a LEGEND

The Fabled James

by John Heerwald



Noted by geographers as one of the longest rivers in America lying completely within the boundaries of a single state, the James traverses the entire breadth of Virginia, its basin encompassing 25 percent of the state's total land mass. The James originates in the rugged Alleghany Mountains of western Botetourt County. Its fertile waters travel through 340 miles of countryside and 376 years of American history on their journey to the Chesapeake Bay at Hampton Roads.

The James and its environs are so rich in historic significance that it has been called the "cradle of the nation."

Since the founding of America's first English-speaking settlement at Jamestown in 1607, the James has served her people well. She has functioned as an avenue of exploration, transportation and commerce, provided drinking water, powered industries and irrigated farms and plantations, immeasurably enriching the heritage of a nation.

The wealth of recreation opportunities offered by the James is an integral part of that heritage. An excellent sport fishery coupled with ready accessibility make the James one of Virginia's most popular rivers. Although the river is boated from its headwater to Hampton Roads, the 212 river miles between Eagle Rock and Richmond attract the majority of canoeists, kayakers and jon boaters.

From a paddler's perspective, it is difficult to imagine a single stream capable of offering a greater diversity of scenery and opportunity.

The James drifts lazily through quiet pools and ripples bordered by the rolling, pastoral scenery of the Piedmont en route to the mountainous wilderness.

These mountainous areas feature good trout fishing; the sportsman can also search for trophy bass in the river's calmer sections, pit his skills against complex, demanding whitewater, or simply get away for a day. The James can satisfy the demands of any outdoorsman.

While access to many of Virginia's rivers is severely limited, the James has a number of public access points throughout its length. In addition to the 12 public boating access areas provided by the Commission of Game and Inland Fisheries, there are any number of privately owned places at which the river is accessible to the public. The ready accessibility and geographic diversity of the James creates an almost unlimited array of trip possibilities, ranging in length from a few hours to several weeks, and accommodating skill levels from novice to expert. An in-depth description of the many possible float trips on the James is beyond the intended scope of this article. However, two of the more popular stretches are generally described to give the reader a sense of the diversity of this exceptional resource.

The paddler, or float fisherman, desiring a mountainous river setting would do well to consider a trip on the upper James, somewhere between Eagle Rock and Snowden. Sweeping vistas of the rugged Alleghany and Blue Ridge Mountains are almost constantly present in this 48-mile stretch, as the river bends sharply around such promontories as Timber Ridge and Purgatory Mountain.

The history buff can see several exceptionally well preserved remnants of the massive cut stone locks constructed by the James River and Kanawah Canal Company during the mid 1800's; these are visible from the river.

Above the town of Glasgow, the frequent Class I-II riffles are easily negotiated by the novice paddler. However, between Glasgow and Snowden, where the river begins its cut through the Blue Ridge Mountains toward the Piedmont, the whitewater becomes somewhat more demanding. Balcony Fall, Class III-IV depending on the water level, is located in this stretch and is the largest rapid on the James above Richmond. This drop should be carefully scouted from the shore before it is run, and should not be attempted by novice canoeists.

Fishing along this stretch of the James is excellent, and a canoe or jon boat allows the angler to reach more remote areas of the river not accessible by road. Though the wary smallmouth bass is the most sought-after gamefish in these waters, channel cat and numerous species of sunfish are also present in good numbers.

For those wishing to float for several days, there are commercially operated campgrounds, as well as a number of U.S. Forest Service campgrounds in the vicinity of the river. The Forest Service has also recently established three primitive, float-in only campsites between Buchanan and Glasgow. Roughly located on the accompanying map, signs identifying these three areas are to be posted on the river.



Floating the James

Eagle Rock To Buchanan: Paddle time 8 to 10 hours. Numerous Class I-II riffles. Exceptional mountain scenery, several well preserved locks from Historic James River and Kanawah Canal navigation visible from river. No publicly owned access sites in this stretch, however, Owens-Illinois Corporation allows paddlers access to the river at two sites: one-half mile upstream from Eagle Rock behind the company woodyard and just off Route 43, four miles upstream from Springwood. Access is also available at the bridge in Springwood for a small fee.

Buchanan To Glasgow: Paddle time 8 to 10 hours. Many Class I-II riffles. Numerous mountain vistas. Primitive U. S. Forest Service canoe-in campsites located on river right, 13 and 15 miles below Buchanan and at Glasgow. James River Recreation Area (privately owned campground) on river right three miles upstream from Glasgow. General Stores at Eagle Rock and Buchanan.

Smith Islands: Two and one-half miles upstream from Bent Creek. Primitive canoe-in camping, picnicking etc. on two large islands owned by Westvaco Corporation and made available to the public through a cooperative agreement with the state. No facilities. Please be careful with fires and carry out all trash, so that paddlers may continue to enjoy the use of these beautiful islands.

Bent Creek To Wingina: Paddle time 5 to 7 hours. Numerous Class I-II riffles, several islands. Store at Bent Creek.

Howardsville To Scottsville: Paddle time 4 to 6 hours. Access site at Howardsville through privately owned road. Pay fee at store. Scenic stretch with few riffles, numerous small islands. Intermediate access at Warren Ferry (not operating), six miles below Howardsville and Hatton Ferry, 8.5 miles below Howardsville, on river left. Commercial canoe livery at Hatton Ferry. General store at Scottsville.

Hardware To Breomo Bluff: Paddle time 2 to 3 hours. Very scenic section of river. Channel braided by dozens of large and small islands. Numerous Class I-II riffles. No danger points at normal river levels. No formal access at Breomo Bluff. Take out downstream from Route 15 bridge on river left.

Breomo Bluff To Columbia: Paddle time 3 to 5 hours. Predominantly flat stretch with several islands. No danger points. Scenic heavily wooded hills on river right. General store at Columbia. Take out on river right at the bridge.

Cartersville To West View: Paddle time 2 to 3 hours. Flat stretch, bounded on river right by steep heavily wooded hillsides that provide nice backdrop to river vistas. Take out on the left, opposite island.

Baumont To Watkins: Paddle time 4 to 6 hours. Middle 1/3 of this float particularly scenic as river threads its way through numerous islands and Class I riffles. Backwaters from Boshers Dam last 3 1/2 miles. Take out on river right.

The James Through Richmond: The 7 miles of very scenic river through the city contains a number of dams and heavy, complex rapids, and should be undertaken only by experienced paddlers. Guidebooks and topo maps should be consulted. River accessible at several points within the city's James River Park. River becomes tidal below Richmond. Commercial canoe and raft livery available.

Introduction

This map shows approximate paddle times between various access points on the James River. Boaters should add fishing times, etc. when estimating total trip time. This map does not locate all obstructions, islands or rapids. Before floating an area with which you are not familiar, topographic maps should be obtained. These maps are available from the Virginia Division of Mineral Resources in Charlottesville.

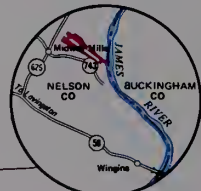
Fishing on the James between Eagle Rock and Richmond is excellent. Smallmouth bass, bluegill and channel catfish are the most popular species sought by anglers.

Danger: Seven dams between Snowden and Lynchburg. Approximate locations shown here. Check topo maps before going down river.



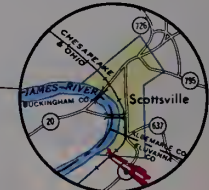
GLASGOW LANDING

Glasgow To Snowden: Paddle time 2 to 3 hours. One of the most beautiful reaches of the entire James, as river cuts through the Blue Ridge Mountains. Numerous Class I-II riffles. Balcony Falls, a major Class IV rapid, should be scouted carefully. Federally designated James River Face Wilderness Area on river right. General store at Snowden.

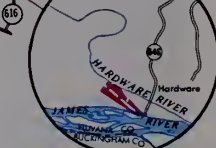


JAMES RIVER WMA LANDING

Wingina To Howardsville: Paddle time 4 to 6 hours. Numerous islands, Class I-II riffles, no danger points. Access also at James River WMA, two miles below Wingina. General store at Howardsville. Pay fee at store for access to river via private road.



SCOTTVILLE LANDING



HARDWARE RIVER WMA LANDING

Scottsville To Hardware River WMA: Paddle time 2 to 3 hours. Upper four miles very flat, lower two miles very scenic, studded with numerous wooded islands. Take out on river left.

Columbia To Cartersville: Paddle time 3 to 5 hours. Predominantly flat stretch with fair scenery. No danger points. General stores at Columbia and Cartersville. Take out below bridge on river right.

West View To Baumont: Paddle time 4 to 6 hours. Numerous Class I river-wide riffles and several small islands between miles two and five. Many scenic vistas as river meanders between heavily wooded hills and broad agricultural floodplains. Commercial canoe livery in Goochland, one mile from river. General store in Maidens 1/4 mile across bridge from take out.

LEGEND

Camping
Canoe Livery



LIVERIES CAN BE A HELP

If you are interested in a float trip on the James, but lack either boat or experience, any of the canoe livery operations listed below can provide you with a full range of services and equipment, including professional advice on the section of river best suited to your skills and trip purpose.

James River Basis Canoe Livery, Ltd.
Route 4, Box 109-A
Lexington, Virginia 24450
Telephone No: (703) 261-7334

James River Experiences, Inc.
11010 Midlothian Turnpike
Richmond, Virginia 23235
Telephone No: (804) 794-3493

James River Runners
Route 1, Box 106
Scottsville, Virginia 24590
Telephone No: (804) 286-2338

Maidens Canoe Livery, Inc.
Post Office Box 336
Goochland, Virginia 23063
Telephone No: (804) 556-4000



The James provides an almost unlimited array of trip possibilities, from short day trips for the novice to more challenging, canoe-camping journeys lasting several days (left).

Should the Piedmont section of the state be more to your liking, the James offers over 130 miles' worth of floating opportunity. Here, for the most part, the river meanders through rural farmland and gently rolling forests, with an occasional bluff, rock outcrop or island to further enhance the scenery. The numerous ledges and shoals which characterize the upper James are less frequent east of Lynchburg, and tend to be found in abundance only where groups of islands dot the river.

Though virtually all of the Piedmont James is popular, the 88 miles between Bent Creek and Goochland get the majority of the use, due to the presence of ten Game Commission boat landings. Historically, one of the most heavily floated stretches of the James has been that between the towns of Scottsville and Bremono Bluff. The popularity of this particular float is due in large part to the extensive string of islands which braid the main body of the river into innumerable channels. Because most of these islands are heavily wooded and the channels separating them fairly narrow, the paddler often has the feeling of being on a smaller, more intimate stream.



In addition to being scenic, the Scottsville to Bremono run is a particular favorite among float fishermen. The many channels created by the islands offer the advantages of multiplying the already plentiful fishing opportunities and allowing the angler to make numerous trips to the same area, choosing a different course each time.

One of the things that makes the James so attractive to paddlers is its relatively gentle nature. With but few exceptions, the river is safe for novice boaters. However, it is large and deceptively powerful and demands the respect of those that float it. Adequate planning and preparation are important to the safety and enjoyment of any float trip. The map accompanying this article does not provide sufficient detail for adequate trip planning. A canoeing guidebook and USGS topographic map are excellent sources for more detailed information.

Reprints of similar float trip articles on the Shenandoah, Rappahannock and Rapidan Rivers, as well as a map of all state owned/maintained freshwater boating access sites in Virginia, "Boating Access to Virginia Waters," are available upon request from the Virginia Commission of Game and Inland Fisheries, Education Division, P.O. Box 11104, Richmond, Virginia 23230, at no charge. □

It's 4:00 a.m. on an isolated country road in eastern Virginia. The night's silence is broken by the low, constant rumble of a slowly moving pick-up truck. The truck slows further and eventually stops at a nearby field by a timber cutover. The vehicle's driver cuts the lights and sits in complete silence for about 30 seconds. Then, a pulsating, shrill sound is broadcast from the vehicle onto the nearby field, woods and cutover. Shortly after the noise subsides, two men in the truck display red lens spotlights across the field and up and down the state highway. Their quarry is red fox, gray fox, raccoon and any other animal that might be attracted to the area by the recorded animal call. Within seconds, a rifle fires and the shooter races across the field to retrieve his illegally taken game. Once back in the vehicle, the hunters speed off to another area to practice their method of market hunting.

This scenario represents a growing and serious problem for landowners, hunters, trappers and Virginia game wardens. The illegal practice makes it possible to take a substantial number of foxes in a short period of time. In general, the hunters have their vehicles equipped with cassette tape players, cassette tapes, rifles, shotguns, red lens spotlights and speakers which are mounted either in the truck grill or on top of the truck cab. The outlaws work a large portion of a county at night, especially between midnight and daylight. They stop their vehicle in the state highway and eliminate all lights. They play a cassette tape which emits a rabbit or fox pup distress call. The sound is intended to attract a fox or foxes within easy shooting distance of the vehicle. A red lens spotlight is used to locate the fox because it does not frighten the animal. On a good night, one vehicle with a rifle can successfully take five to 10 foxes.

The incidence of this type of illegal hunting is increasing. We've had numerous complaints from landowners, hunters and trappers. These

Spotlighting: A New Twist On An Old Problem.

by Sgt. Lannie Chitwood



Leonard Lee Rue

complaints have originated from late night shooting, the sighting of red lens lights, actual sightings of foxes in truck beds, and by hunters bragging about their night's take.

When people take foxes, raccoons

and other animals via this method they violate several laws. The spotlighting law (29-144.2 of the Code of Virginia) is the most serious. Sixty days in jail, a \$500 fine, forfeiture of the vehicle and firearms and loss of the hunting license for this year and the following year is the maximum penalty imposed under the law. Hunting without permission, transporting loaded firearms on the state highway, discharging firearms from the highway, hunting from a vehicle, using electronic calling devices to take animals and hunting with illegal weapons are all laws which are violated by these criminals.

One extreme incident of this illegal hunting occurred in the counties of Southampton and Prince George in January 1979. Two subjects were apprehended in Prince George County by game wardens James Pritchard, Jerry Jones, Bill Gentry and me. The men were residents of West Virginia and had hunted foxes and raccoons in Virginia, North Carolina and South Carolina. They would sleep in motels during the day and hunt foxes all night. They planned to hunt these animals with electronic recorders from October 1978 until February 1979. They said that they could make more than \$10,000 by their method of illegal hunting. They were charged with multiple game law violations and were tried and convicted of all charges.

Today, this illegal hunting method is growing and poses several problems. Many animals are illegally taken with the use of electronic callers and may affect the animal populations in some areas. Naturally, these kinds of actions adversely affect the public's opinion of hunting, another reason it is a serious problem.

We have laws that can be used successfully to curb this method of illegal market hunting. It takes the combined efforts of law-abiding citizens and law enforcement officers to bring about the elimination of this serious problem. Please notify your local game warden of any information you have concerning this, or any, game law violation. □

Non-Game Update

The black rat snake, *Elapha obsoleta*, is one of the most easily recognized and best known snakes in Virginia. Its size and color make it easy to identify. It is also known as the pilot black snake, chicken snake, mountain snake, or simply, black snake. The rat snake differs from the black racer in that it has a yellowish-white belly scattered with black squares. Only the chin and throat are white on the black racer (also called black snake). Neither snake is poisonous.

As a young child, I remember my father bringing black snakes from the nearby woods and releasing them near the house. Mom didn't mind. She disliked cats, and rat snakes were excellent alternatives as mousers.

The black rat snake's role as a predator is well known. Farmers are often proud of the size of the snakes living in their barns. Although a rat snake will eat a fresh egg or two, the number of rodents consumed far outweighs an occasional loss in the henhouse.

Like all other snakes, the black rat snake sheds its skin as it grows. As a skin tightens, a new skin forms under the older, outer skin. After shedding, the black rat snake is very attractive. The skin is glossy black and each scale refracts light, causing a rainbow effect in the sunlight.

In late spring, the female rat snake lays 8 to 12 leathery eggs in a decaying stump, log, or hollow tree. The female does not watch over the eggs; she leaves them to be warmed by the sun and decaying plant materials. In the fall, the 12-inch young leave the egg on their own. The young are pale gray with single rows of square, dark brown blotches on their backs. By the time the snake is 30 inches long, usually during its second year, it is black.

The black rat snake can reach lengths of eight feet or more and live up to 20 years. The young snakes often eat their prey live while adults kill prey by wrapping their coils around the victim, tightening the coils each time the victim takes a breath.

Like all snakes, the rat snake cannot chew its food; it must be swallowed whole. A unique jaw structure allows it to swallow prey much larger than its head. The two halves of the lower jaw are not fused together, but are connected by a ligament that allows independent movement. The lower jaw can

The Black Rat Snake

Farmers welcome this
predator.
by Susan Gilley

move forward, backward, up and down, as well as out to the sides. In addition, the lower jaw is connected to the skull by two movable bones, allowing the mouth to open wider still. The

There are many myths about the black rat snake, including the one that the black rat snake and the poisonous snakes in Virginia are interbreeding. This story perhaps got its start when someone startled a black rat snake and it started to vibrate its tail like a rattler. Many snakes vibrate their tails when nervous. The black rat snake is a constrictor; it squeezes its prey in order to kill it. The poisonous snakes in Virginia belong to the pit viper family which uses venom to paralyze and kill its prey. Another major difference between the two families is that the pit vipers bear live young, while the rat snake lays eggs. The two families are not closely related and would not be able to successfully interbreed.

Another myth is that the black rat snake leads poisonous snakes to safety



Leonard Lee Rue

upper jaw can also move independently. The stomach juices digest all but a small amount of fur and bone within a few days, depending on the size of the meal.

This time of year black rat snakes are often seen around homes. If a snake is seen around the yard, it is there to eat the rodent population. The best way to get rid of snakes is to remove their food supply by cleaning rodents' habitats. Any food sources for mice and other small animals should be placed in tightly sealed containers. Moving compost piles away from the house will also help.

whenever danger threatens, hence the name pilot black snake. During hibernation, snakes crawl into a den individually without any thought of who else might be occupying the same den.

The black rat snake, as well as other snakes, is an important member of the environment. It plays a beneficial role in keeping rodents and other pests under control. The black rat snake is one of 36 species and subspecies of snakes that live in the Commonwealth. Of these species, only four are poisonous. All snakes, whether poisonous or nonpoisonous, are best left alone because they will bite if threatened. □

Charles R. Taylor

by Francis N. Satterlee

"Firsts" are nothing new to Charles R. Taylor.

In his 13-year National Football League career, Taylor became the NFL's all-time leading receiver. And he was an assistant coach for the Super Bowl champion Washington Redskins last January.

Two months later, Taylor, an experienced hunter, was appointed by Gov. Charles S. Robb to the Virginia Game and Inland Fisheries Commission. Taylor filled the Tenth Congressional District seat vacated by the death of I. Lee Potter and became the first black person to be appointed to the Commission.

A native of Grand Prairie, Texas, Charley's early interest in hunting and fishing stemmed from his parent's and relative's interest in those sports. He recalls the many times he fished with his parents in nearby Lake Texoma and the marvelous hunting trips with his uncles near Crockett and Palestine, Texas, for deer, raccoon, squirrel and quail. Those memories stuck with him and he now owns a farm in that very area of Houston County.

Sports of all types have always played an important part in his life. While a sophomore in high school, he passed a Red Cross course in Dallas and became a life guard at a swimming pool in Grand Prairie. Charley played high school football, basketball and baseball and was on the track team.

After graduation, he entered Arizona State College in Tempe, Arizona, on a football scholarship. He majored in physical education and minored in history.

The Redskins made Taylor their first choice in the 1964 NFL draft following his graduation from Arizona State. Taylor played running back for two and a half years and was named Rookie-of-the-Year in 1964. In 1966, he changed to the position of wide receiver, where he remained until his retirement from active play in 1977.

Commissioner, Tenth Congressional District



During that time, he became football's all-time leading receiver with 649 catches for 9,110 yards. He is the holder of 10 Redskins' records, including 90 touchdowns scored (sixth all-time in the NFL) and 10,833 total yards. He caught 50 or more passes in a season seven times.

Currently serving as wide receiver coach of the Redskins, Taylor gains great satisfaction from finding a young man with potential and ability, watching his development and seeing it brought to fruition on the playing field.

Mrs. Taylor is the former Patricia

Grant of Phoenix, Arizona. The Taylors have three children, Charles Jr., 18, a freshman at Ferrum College in Virginia; Elizabeth, 13, who attends Hunter Wood Middle School; and two-year-old Erica. They make their home in Reston, Va.

Commenting on his appointment to the Virginia Game Commission, Charley Taylor said he is "both gratified and elated at the Governor's faith and trust in me. I am thrilled, excited and looking forward to the challenge that this appointment represents." □

Growing Up Outdoors

What is Wildlife Management?

by Carolyn Evans



Have you ever had to share a room with someone, say, a brother or sister? If you have, you know that it takes *compromise*. Compromise (say KOM-pro-myz) means to settle a dispute by having each side give something up. This way, neither side loses the argument or dispute; in some way, each side can win.

There are times when people living in the same room might want to draw a line down the middle and say, this is my side and that's your side. But life really doesn't work that way. We have to figure out ways to live *together* without getting in each other's way.

That's a very simple example of how it is with people and wildlife. If we want to live together, we have to compromise; each side gives something up. Wildlife has had to give up a lot to man. How can we be sure that we don't ask so much of wildlife that we can't live together any more? For example, if we take away all the wildlife habitat in the world to build houses or shopping centers, there won't be any more wildlife. Or if we could kill as many animals as we wanted to whenever we wanted to, they wouldn't survive very long. What do we do?

There is a science called *wildlife management*; its purpose is to develop ways for man and wildlife to live together under circumstances that are good for both sides.

The idea of managing wildlife came about primarily as a result of sportsmen's concern over the decrease in wildlife due to uncontrolled hunting and destruction of woods and forests which served as homes for wild animals. It was because of this movement that the Department of Game and Inland Fisheries (now the Commission of Game and Inland Fisheries) was established.

Through habitat management based on scientific research, experts can develop the best habitat for wildlife. But what if animals are in the wild and have the best living conditions—won't there be too many animals?

Actually, nature controls wildlife populations. Wildlife will grow only to a level that can be supported by the available habitat. To use a very simplified example, imagine there is a certain piece of land, that has enough water, food and cover to support nine deer. If there were 10 deer on that piece of

land, the tenth deer would die of starvation, die of disease, or move to another area where there *was* enough of the "essentials" for life.

In many areas, there are "surplus" or extra wildlife populations. The scientists of the Game Commission conduct research to determine what that surplus will be, and hunting regulations are set so that hunters take only the extra wildlife that would die of starvation or disease anyway. Quail and doves, for example, have a natural *mortality* (death) rate of 75 to 80 percent; when hunters shoot quail, they are not reducing the populations of quail, because they are taking birds that would have died from some other cause if not hunting.

Scientists do a great deal of research so that animals can benefit from their surrounding *habitat* (the area or place where the animals live). They might change an area or place where the animal lives by adding shrubs and food or taking away excess trees and waste; they try to improve the habitat to help the wild animals live better. Just like us, animals need food, water and shelter or protection from predators in order to live. We know what it is like to have the refrigerator empty and the cupboards bare but at least we can go to the store to get more food and things to drink. If your house has a leaky roof or a broken window, you can fix it in

order to be sheltered from rain or wind and also protected from robbers. What do animals do if there isn't any food or water in the area in which they live? What if there are not any trees high enough for birds to build their nests above and away from predators or bushes for deer to sleep under for protection from bad weather? In areas without food, water and shelter, there would not be much wildlife. Look in your backyard; most likely, if you have trees, bushes and maybe a bird feeder too, there is a lot of wildlife activity. This is because the animals feel safe from predators because they can fly or run up a tree and hide under the bushes. If there is food, such as seed, the animals will come because they know they can eat all they want. All of this is the same in the woods and forests but it is the Game Commission that can provide food and make large water holes where animals can come to drink. The Game Commission can also plant trees and shrubs in areas where animals need extra protection from predators or shelter from bad weather. In these ways, the habitat can be improved and then sustain a greater number of animals.

Not only are wild animals protected and maintained by the Game Commission, fish are too. Keeping fish alive is very difficult so water must constantly be evaluated for temperature, harmful chemicals and present nutrients for fish to feed on. Fish biologists trap fish and collect information or *data* such as weight and length of the fish. From the data collected, a biologist can tell if the fish are healthy and if they are not, he or she figures out how the water can be improved for fish.

An important aspect of fish management is the stocking of fish. Stocking fish establishes a good population or increases the number of fish in a given area. Just like hunters, fishermen must have licenses to fish in certain waters and there are restrictions and rules to make sure people don't "over fish" in areas, thus damaging the population, and leaving few fish for other people to enjoy.

Virginia is blessed with a wide variety of wildlife and habitat. Game Commission employees want to make sure that our wildlife resources are managed wisely so they'll be around for a long, long time. □

A photograph of a young fox cub standing in a field of green clover. The cub is facing left, looking towards the camera. It has a mix of tan, black, and white fur. The background is a dense field of green clover.

Native Newcomers

A peek at the youngest members
of Virginia's wildlife community.

by G. Bruce Potter

Gary Gaston

Although they may appear vulnerable, nature's young should be left alone. On the preceding page, a young fox romps in a field of daisies. Even though it may seem to be lonely, this white-tailed fawn (top) is probably being closely watched from a nearby bush by his mother. And the parents of this young snowy egret (bottom) will shortly return with some food.

As spring's cool breezes and intermittent showers give way to summer's hazy heat and humidity, the younger members of Virginia's animal kingdom will be making their first forays into the wilderness.

With a chirp while begging for food or a slight growl while wrestling, the offspring from the spring mating season begin to come into their own.

However, as vulnerable and fragile as they may appear, nature's young are really quite safe in their home—nature. They will come into more danger if removed from their natural habitat than if left alone.

Although a knowledgeable human might be able to provide good care for a fawn, for example, the situation can become dangerous for both parties. A sexually mature buck can easily cause serious injury if provoked. And, on the other hand, a home-raised fawn or other animal returned to the wilderness will probably have lost the natural instincts with which it was born, and it will have difficulty surviving.

It must also be remembered that it is illegal to keep any kind of wild animal without a permit from the Virginia Commission of Game and Inland Fisheries.

Anyone who stumbles onto a nest of young blue jays or a lonely-looking fawn should remember that the parents are not too far away. In fact, they are probably watching from the safety of a nearby bush. It is safe to admire and photograph the young from a distance but do not handle them and, most importantly, do not take them home to care for them.

Prevent any unnecessary danger by leaving nature's young where they belong—in their natural habitat. □

Three Canada goslings (facing page, top) enjoy the warmth of their mother. One can almost hear the sound of the young blue jays (facing page, bottom) begging their father for some more food.



Rick Perry



Gary Gaston



Bill Ivy



Bill Ivy



Alice D. Hatch

Two black bear cubs (above) playfully wrestle in Richmond's scenic Maymont Park; an eastern wild turkey poult (right) perches precariously on a branch during one of its first days away from the nest.



Nell Bolen

Outdoor Notebook



Spike Knuth

Warden Honored by F.O.P.

Game Warden Mike R. Minarik was named Law Enforcement Officer of the Year in Augusta County in 1982.

Minarik received his award on December 18 from Lodge 24 of the Fraternal Order of Police. The award is presented annually to a member of a law enforcement agency in the county.

The 30-year-old Minarik joined the Virginia Commission of Game and Inland Fisheries in April 1976. He worked in the Richmond area for two years before transferring to his present assignment in Augusta County.

Minarik, who attended Randolph-Macon College, has furthered his education by attending classes at a local

community college while working as a game warden. In addition, he teaches a defensive driving program for the new game wardens.

Minarik was nominated and selected by other law enforcement officers who are members of the Fraternal Order of Police.

Roger Stevens, past president of the lodge, said, "We feel very fortunate to have Mike as a member of our organization and someone of his caliber serving our community."

Minarik, a native of Salem, makes his home in Stuarts Draft with his wife Alexandra and their two sons, Andrew and Jeb. □

EPA: Smooth Sailing or Troubled Waters?

The embattled Environmental Protection Agency is apparently not yet free of controversy, even with President Ronald Reagan's appointment of William Ruckelshaus as its new administrator.

Ruckelshaus, EPA chief under President Richard Nixon, invited several wildlife and conservation groups to privately meet with him this spring to discuss the issues he will face as head of the troubled agency.

Some groups still have reservations about Ruckelshaus, a corporate attorney before his latest appointment. Danny Shaffer, Sierra Club president, told the Washington Press Club in April that "having been fired by Mr. Nixon is not, in itself, convincing evidence that Ruckelshaus has the qualifications to be a responsible administrator of EPA.

"If he is to become the repository of public trust as an advocate for the people against the polluters, he is going to have to earn that trust," Shaffer said.

Meanwhile, a congressional study released in the spring said, "The Environmental Protection Agency's regulations do not assure consistent nationwide levels of protection for human health from the potential effects of hazardous waste."

The study, made public by the Office of Technology and Assessment, said a ton of hazardous waste for every American is added to the environment each year, and "current policies are likely to lead to the creation of still more uncontrolled (hazardous waste) sites." — G. Bruce Potter



photos by Karl Martin

Littering

Many of the mountain streams in western Virginia stocked with trout by the Game Commission each year are located on private property. However, Virginia sportsmen are fortunate to have landowners willing to give permission for public fishing on their property.

Some of these landowners are not fishermen but enjoy seeing friends, neighbors, relatives and the public having a place close to home to enjoy their sport. The landowners receive no compensation for their generosity; indeed, they often have to pay instead.

A few thoughtless people have caused many streams throughout the state to be closed due to littering or vandalism. Although all the damage done to property along the streams is not done by sportsmen, sportsmen suffer when a stream can no longer be stocked.

Littering has become a major problem on farm land that fishermen have used as a dumping ground for bottles and cans. Would you like to go out in your front yard day after day and pick up garbage that your neighbor had deposited the night before?

Much of the land along our trout streams is used for pasture or hay production. A broken bottle in the grass can be a serious problem if baled and fed to cattle, not to mention the cost incurred by the farmer if a tractor tire is punctured.



Litter is a big problem on mountain streams, as officer Jay Calhoun shows.

Virginia's game wardens are trying to prevent this littering, which is against the law. For example, two wardens were patrolling Franklin County streams a few days before the opening of trout season last year. But instead of finding poachers, the wardens found a truck load of garbage that had been dumped alongside and into the trout stream.

A mattress, box spring, chair and household trash in ripped plastic bags were found along the creek bank.

After the area had been cleaned, the wardens were able to locate the responsible person and charge him with littering. This person used the creek as a dump rather than using a dumpster half a mile downstream that he passed each day on his way to work.

The defendant was convicted in General District Court, fined \$100 plus court costs and sentenced to 30 days in

jail. The jail sentence was suspended after the defendant picked up trash along the creek for eight hours. This particular incident did not involve a sportsman—but in the long run, who will suffer?

Many clubs throughout the state have volunteered to pick up litter, repair fences or correct the damage done along the trout streams. These interested sportsmen fixing damage done by a few inconsiderate citizens is helpful, but let's all do our part to ensure future land and water access to our favorite sport!—Sgt. Karl P. Martin

Conservationists and Watt Spar Over Wetlands Bill

Conservationists have squared off with Interior Secretary James Watt over yet another environmental issue—preservation of our wetlands.

Watt has sent Congress a bill he says is designed to protect America's wetlands. Titled the Protect Our Wetlands and Duck Resources Act, the measure would forbid federal subsidies of activities that would result in the loss of wetlands. These activities would include construction of airports or sewage treatment plants.

The bill would also raise the price of federal waterfowl hunting stamps and allow the Interior Department to charge admission to wildlife refuges, with the proceeds going toward wetlands acquisition.

However, conservationists claim Watt's bill contains many loopholes and will not be effective in protecting wetlands. One of these loopholes, they say, is that the measure would not prevent federal water projects, military construction or oil and gas development.

In addition, the bill would continue to allow the payment of farm subsidies for crops grown on drained wetlands. The United States Fish and Wildlife Service estimates that 80 percent of the wetlands being destroyed are lost to such agricultural uses.—G. Bruce Potter

Interior Department Recalls Lead Shot Film

The debate over lead-shot pellets is raging on with the Interior Department and the National Wildlife Federation firing the latest salvos.

For more than a decade, the Interior Department had worked with conservation groups to encourage waterfowl hunters to switch from using the traditional lead shot pellets to a non-toxic alternative, steel shot.

An estimated 1.5 to 3 million birds, primarily ducks and geese, die each year from ingesting the lead pellets, which they mistake for grit when foraging for food at the bottom of shallow marshes or in fields.

However, in April, the Interior Department announced it was "illegal" to publicly show a half-hour documentary designed to demonstrate to hunters the differences between the lead and the steel shot. The film had been commissioned by the Interior Department's Fish and Wildlife Service in 1979.

The Interior Department has now recalled all known copies of that film, though, on the grounds that it is

"technically distorted." However, the National Wildlife Federation has refused to hand over its copy of the film, which it bought last June.

In addition, the Federation has announced plans to distribute the film widely in the United States.—G. Bruce Potter



Crab Feast

The Hanover Unit of the American Cancer Society will host their 3rd annual crab feast on Thursday, July 7, 1983 at the Kings Dominion Pavilion. The all-you-can-eat extravaganza of crabs and beer begins at 5:00 p.m. and ends at 8:00 p.m. The \$10.00 tickets are available through advance sales only. For information concerning ticket purchases call (804) 358-1308. □

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A Wild DELICACY Overlooked

Spearmint—a centuries-old tradition—is a versatile herb that can be easily and inexpensively gathered.

by Francis X. Sculley

It grows in profusion in the wild, though it was brought to America as a cultivated plant over two centuries ago. Escaping cultivation early in its existence, it is now found along roadsides, on the edge of damp woods, behind the family garage or even between rows of corn—it is everywhere. It is known as spearmint (*Mentha spicata*) and it has more uses than all others of its illustrious family which includes bergamot, horehound, peppermint, pennyroyal and sage, to name a few.

The plant stem of spearmint is square—as with most of the family—and green in color but changing to reddish. It is nearly smooth. The leaves are oblong or ovate, lance-shaped and unevenly toothed. The plant is from 12 to 20 inches in height and in July and August is crowned with pale purple, puff-like blossoms. The leaves are composed of hundreds of tiny glands which exude a volatile oil when the plant is bruised or crushed. From this oil is obtained the exquisite flavoring so popular in toothpaste, mouth wash, chewing gum, candies and medicines. It is obtained by distillation.

For centuries Europeans have been using dried spearmint leaves in salads, soups and stews. They can be purchased in almost any supermarket—but cost an arm and a leg. They may easily be prepared at home. Gather a quantity of the aromatic leaves and wash thoroughly. Sponge dry. Arrange on a pie tin and dry in a low oven. When thoroughly dried, crush. Store in jars which are tightly sealed. The leaves will do something for a potato salad or a lamb stew.

This is the mint that is used in the ever popular drink of southern aristocracy—the julep. It is also the main ingredient in the emerald colored jelly that is served with roast lamb. However, unless the leaves are crushed and then dredged with powdered sugar, one might as well place his finger in the drink or the jelly. The cool flavor cannot be released in any other way.

Homemade mint jelly is simple to make. After crushing and dredging, lay an inch-thick mat of leaves on the bottom and sides of a sauce pan. Pour a quart of apple juice over the leaves. Let stand for an hour. Then bring to a boil; again let stand for half an hour. Remove leaves, add green vegetable coloring, and bring to rolling boil. Add two cups sugar and bottle of fruit pectin. Boil. When the mixture becomes stringy it is done. Pour into sterilized jars, and seal. This is excellent with wild game as well as lamb.

There is nothing else that looks like spearmint unless it would be its cousin, water mint (*Metha aquatica*), also edible. There is no way one can mistake spearmint for a dangerous plant.

Best of all, there is a seemingly never-ending supply—and one cannot beat the price. □



Robin Schroeder



Bird of the Month

Pick a woodlands in June in Virginia—any woodlands—from Tidewater to the mountains!

Most of the trees are fully leaved—or nearly so—with emerald green foliage. Some still sparkle with snowy blossoms of white, pink or yellow. Early in the morning, trees and shrubs are alive with birds caring for their growing broods. Between occasional trips to assist the females in feeding the young, the males perch close by repeatedly singing—as if for sheer joy. To the inexperienced ear, these songs are seldom noticed, but if one listens carefully to the variety and numbers of songs, it becomes apparent that the woodlands is a stage for a gigantic symphony of sounds. With time and experience, each song can be recognized and, though the birds may be unseen, the listener can visualize the various species active in the dense foliage.

One bird song almost sure to be heard once the listener has learned to identify bird music is that of the red-eyed vireo. Although seldom seen because it usually resides in the upper canopy of the forest, this little bird is frequently heard. In fact, if there is one thing dominant about the red-eyed vireo, it is the male's incessant singing. He begins each morning singing in chorus with other birds, but after they quit around mid-morning, the little red-eye continues singing a solo throughout the day—even in the heat of summer. The red-eyed vireo's warbling song is very similar to the robin's. It is a series of varied phrases—two to six notes per phase—rapidly sung together, ending with an upward or downward inflection. There are numerous "translations" of the little red-eye's song, but it's up to an individual's imagination. One example is "hear me; over here; see me!" The red-eye's call is a harsh "mewing" note. (Birds have what is referred to as a "call" as well as a song. For example, the "jay-jay" of a blue jay is its call, not its song.)

Because of its constant singing—

The Red-Eyed Vireo

Will he ever stop singing?

by Carl "Spike" Knuth

talking, the red-eyed vireo is often called the "preacher" or "preacher bird." Other names include "little hangnest"—descriptive of the nest it builds—"red-eye" or "red-eyed greenlet." The Latin word for vireo means "I am green" and all the vireos are often referred to as "greenlets."

Vireos are somewhat similar to warblers, yet with a physique similar to a tanager. They have heavier bills than the warblers and move slowly through the treetops much like tanagers, searching out insects—especially caterpillars. There are a dozen vireos native to the United States, six of which are found in Virginia. The red-eyed vireo is the most common of these.

The red-eye measures about six and a half inches in length. Its upper parts are a soft, grayish-olive-green, while its underparts are white with pale, yellowish-olive sides and flanks. Its undertail coverts are a pale yellow. It has a soft-gray cap, edged with black

over a white stripe which runs over the top of the eye. Its red eye is not easily discernible in the field.

The red-eyed vireo breeds over the whole wooded region east of the Rocky Mountains and most of the southern half of Canada from coast to coast. It normally nests in mixed woods, especially in large trees and occasionally in orchards. The hanging nest is built in the forks of trees or shrubs as low as five or 10 feet high, but generally much higher. It builds a cup-like nest woven with vegetable fibers, bark strips, fine grasses, rootlets and cobwebs. Caterpillar webs, pieces of wasp's nest and cocoons are used to camouflage the outside. It is usually so well-built that it withstands the elements for a number of seasons and is often utilized as a nest by small rodents. About three or four white eggs, spotted with dark brown, are laid. Between songs the male assists in nest-building, incubation and feeding. For some reason the vireo nest is frequently used by the female cowbird to "dump" her eggs and the larger cowbird chicks crowd out the vireo babies. The vireos readily take on the duties of raising the cowbird babies which at fledging are larger than their step-parents.

Undoubtedly the red-eyed vireo has always been common. Ornithologist Edward Howe Forbush claimed it was common in the trees on the streets of Boston when he was a boy, until the English sparrow became numerous. It still is a common bird of the forest and its song can be heard in almost any woodland in the spring and summer as it carefully and diligently scans the tree-top leaves for caterpillars. Mainly insect eaters, they will eat a wide variety of small fruits as well.

The red-eyed vireo is a warm weather bird and leaves Virginia at the first hint of cold weather to spend its winter in southern Florida, the Bahamas, Mexico, Central America and South America as far south as Brazil. □



National Safe Boating Week

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